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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/762,535	01/23/2004	Sang Woon Suh	1740-000043/US	2581

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EXAMINER	
GIESY, ADAM	

ART UNIT	PAPER NUMBER
2627	

MAIL DATE	DELIVERY MODE
06/06/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/762,535	SUH ET AL.	
	Examiner	Art Unit	
	ADAM R. GIESY	2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 April 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2,4-6,14-16,18-20,28-30,32-34,42,57,58,60-62 and 70* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,4-6,14-16,18-20,28-30,32-34,42,57,58,60-62 and 70* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *23 January 2004* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☒ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. Figures 1-3 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

2. Claim 29 is objected to because of the following informalities:

Examiner asserts that line 5 of claim 29 should read --...encoded by a bi-phase modulation method...-- instead of "...encoded by bi-phase modulation method...".

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1, 2, 4-6, 14-16, 18-20, 28-30, 32-34, 42, 57, 58, 60-62, and 70 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Examiner asserts that the language "...wherein one of the bit 0 and bit 1 is represented by the transition *at the start of low and in the middle of high* and another one is represented by the transition in the opposite direction within the predetermined period," is vague and indefinite (see claims 1, 15, 29, and 57). Examiner will interpret this language in light of Figure 7 of the instant specification to mean that a transition of 'low' to 'high' in the pit wobble is given a value of "0" and a transition of 'high' to 'low' is given a value of "1" (as demonstrated in Figure 7).

Further correction and/or clarification is needed.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1, 2, 4-6, 15, 16, 18-20, 29, 30, 32-34, 57, 58, and 60-62 are rejected under 35 U.S.C. 102(b) as being anticipated by Minamino et al. (hereinafter Minamino – US Doc. No. 2003/0007432).

Regarding claim 1, Minamino discloses a computer-readable recording medium comprising: an information area (see Figure 36, element 401), the information area including a first region for a main data (Figure 36 inherently contains a 'user data area' which is unlabeled; see also pages 24-25, paragraph 0398 – note the 'user data area'), and a second region for control information which controls recording or reproduction of the main data (Figure 36, element 1502; see also pages 24-25, paragraph 0398 – note

the 'lead-in area'), said control information being encoded in wobbled pattern (see pages 24-25, paragraph 0398, lines 6-8), wherein said control information is recorded by bi-phase modulation method in such a manner that bit 0 and bit 1 are determined respectively depending on a transition in a direction within a predetermined period (see page 25, paragraph 0404-0405), wherein one of the bit 0 and the bit 1 is represented by the transition at the start of low and in the middle of high and another one is represented by the transition in the opposite direction within the predetermined period (see Figure 36, element 1505 – note that the control information element has a value of '0' when grove shape is from low to high [see 0-0-1-1 as low to high] and the control information element has a value of '1' when grove shape is from high to low [see 1-1-0-0 as high to low]).

Regarding claim 2, Minamino discloses all of the limitations of claim 1 as discussed in the claim 1 rejection above and further that said control information is recorded in a lead- in zone of the information area of the recording medium (see Figure 36, element 1502 – note that 1502 is in the lead-in area; see also pages 24-25, paragraph 0398).

Regarding claim 4, Minamino discloses all of the limitations of claim 2 as discussed in the claim 2 rejection above and further that said control information is recorded in a particular data area of the lead-in zone of the computer-readable recording medium (see Figure 36, element 1505).

Regarding claim 5, Minamino discloses all of the limitations of claim 4 as discussed in the claim 4 rejection above and further that the bit 0 is represented by the

transition from low to high, while the bit 1 is represented by the transition from high to low (see Figure 36, element 1505 – note that the control information element has a value of '0' when grove shape is from low to high [see 0-0-1-1 as low to high] and the control information element has a value of '1' when grove shape is from high to low [see 1-1-0-0 as high to low]).

Regarding claim 6, Minamino discloses all of the limitations of claim 1 as discussed in the claim 1 rejection above and further that said control information is recorded in a particular data area of the information area of the computer-readable recording medium as part of disc information or independent of the disc information (see page 25, paragraphs 0400 and 0410).

Method claims 15, 16, and 18-20 are drawn to the method of using the corresponding apparatus claimed in claims 1, 2, and 4-6. Therefore method claims 15, 16, and 18-20 correspond to apparatus claims 1, 2, and 4-6 and are rejected for the same reasons of anticipation (obviousness) as used above.

Regarding claim 29, Minamino discloses a method of reproducing data from a recording medium, comprising: utilizing control information which controls reproduction of a main data, to reproduce the data (Figure 36, element 1502; see also pages 24-25, paragraph 0398 – note the 'lead-in area'), the control information being encoded in a wobbled pattern (see pages 24-25, paragraph 0398, lines 6-8), said control information being encoded by a bi-phase modulation method in such a manner that bit 0 and bit 1 are determined respectively depending on a transition in a direction within a predetermined period (see page 25, paragraph 0404-0405), wherein one of the bit 0

and bit 1 is represented by the transition at the start of low and in the middle of high and another one is represented by the transition in the opposite direction within the predetermined period (see Figure 36, element 1505 – note that the control information element has a value of '0' when grove shape is from low to high [see 0-0-1-1 as low to high] and the control information element has a value of '1' when grove shape is from high to low [see 1-1-0-0 as high to low]), and wherein the utilizing step includes a step of decoding the control information by a demodulation method (see Figure 39, element 812; see also page 25, paragraph 0410).

Regarding claim 30, Minamino discloses all of the limitations of claim 29 as discussed in the claim 29 rejection above and further that said control information is recorded in a lead-in zone of the information area of the recording medium (Figure 36, element 1502; see also pages 24-25, paragraph 0398 – note the 'lead-in area'), and wherein the utilizing step includes a step of reading the control information in the lead-in zone (see page 25, paragraph 0410).

Regarding claim 32, Minamino discloses all of the limitations of claim 30 as discussed in the claim 30 rejection above and further that wherein said control information is recorded in a particular area of the lead-in zone (see pages 24-25, paragraphs 0395-0398), and wherein the step of reading step reads the control information in the particular area (see page 25, paragraph 0410).

Regarding claim 33, Minamino discloses all of the limitations of claim 32 as discussed in the claim 32 rejection above and further that the bit 0 is represented by the transition from low to high, while the bit 1 is represented by the transition from high to

low, and wherein the decoding step decodes the bit 0 or 1 by identifying the transition direction (see Figure 36, element 1505 – note that the control information element has a value of '0' when grove shape is from low to high [see 0-0-1-1 as low to high] and the control information element has a value of '1' when grove shape is from high to low [see 1-1-0-0 as high to low]).

Regarding claim 34, Minamino discloses all of the limitations of claim 29 as discussed in the claim 29 rejection above and further that said control information is recorded in a particular area as part of the disc information or independent of the disc information (see page 25, paragraph 0400), and wherein the utilizing step includes a step of reading control information as part of a disc information or independent of disc information (see page 25, paragraph 0410).

Apparatus claims 57, 58, and 60-62 are drawn to the apparatus corresponding to the method of using same as claimed in claims 29, 30, and 32-34. Therefore apparatus claims 57, 58, and 60-62 correspond to method claims 29, 30, and 32-34, and are rejected for the same reasons of anticipation (obviousness) as used above.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 14, 28, 42, and 70 are rejected under 35 U.S.C. 103(a) as being unpatentable over Minamino et al. (hereinafter Minamino – US Doc. No. 2003/0007432) in view of Gotoh et al. (hereinafter Gotoh – US Doc. No. 2002/0089920).

Regarding Claim 14, Minamino discloses the recording medium according to claim 1 including information recorded by bi-phase modulated wobble. Minamino fails to disclose the recording medium wherein the information area further includes a third region storing identification information to identify the presence or absence of the control information.

Gotoh et al. discloses a computer-readable recording medium including control information recorded in a control data area (see Figures 30A and 30C), and a particular region containing identification information to identify the presence or absence of the control information (see Figure 30A - note stripe presence/absence identifier 937; see also paragraphs 0242-0245) for the purpose of monitoring the amount of available space to which more control data may be recorded.

It would have been obvious to one of ordinary skill in the art to combine the recording of information with bi-phase modulated wobble as disclosed by Minamino with the recording of information indicating the presence of control information as disclosed by Gotoh, the motivation being to improve the recording operation of the control information.

Method claim 28 is drawn to the method of using the corresponding apparatus claimed in claim 14. Therefore method claims 28 correspond to apparatus claims 14 and are rejected for the same reasons of anticipation (obviousness) as used above.

Regarding Claim 42, Minamino discloses the recording medium according to claim 29 including information recorded by bi-phase modulated wobble. Minamino fails to disclose utilizing identification information to identify the existence of control information

Gotoh et al. discloses a computer-readable recording medium including control information recorded in a control data area (see Figures 30A and 30C), and a particular region containing identification information to identify the presence or absence of the control information (see Figure 30A - note stripe presence/absence identifier 937; see also paragraphs 0242-0245) for the purpose of monitoring the amount of available space to which more control data may be recorded.

It would have been obvious to one of ordinary skill in the art to combine the recording of information with bi-phase modulated wobble as disclosed by Minamino with the recording of information indicating the presence of control information as disclosed by Gotoh, the motivation being to improve the recording operation of the control information.

Apparatus claim 70 is drawn to the apparatus corresponding to the method of using same as claimed in claim 42. Therefore apparatus claim 70 corresponds to method claim 42, and is rejected for the same reasons of anticipation (obviousness) as used above.

Response to Arguments

9. Applicant's arguments filed 3/12/2008 have been fully considered but they are not persuasive.

Applicant argues, on pages 8-9 of the Response, that Minamino does not disclose a displacement (transition) in one period, but rather two. Examiner respectfully disagrees. Examiner notes that Figure 36 shows a predetermined period (see element 1505 - the first period being the control information element block with the bit value '0' and the second period being the control information element block with the bit value '1'). Examiner further notes that the control information element block can read upon "predetermined period" since each control information element block appears to contain 4 wobble period cycles and is therefore a period of time.

Furthermore, Examiner notes that the term "period" is not necessarily limited to a clock period (one clock cycle), but can also be used to mean a length of time. The use of "predetermined period" as recited in the claims can be interpreted as any predetermined length of time.

The claims are given the broadest reasonable interpretation consistent with the specification. See In re Morris, 127 F.3d 1048, 44 USPQ2d 1023 (Fed. Cir. 1997).

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a. Spruit et al. (US Pat No. 6.549.495) discloses wobbled pits encoded with a bi-phase modulated scheme.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ADAM R. GIESY whose telephone number is (571)272-7555. The examiner can normally be reached on 8:00am- 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wayne R. Young can be reached on (571) 272-7582. The fax phone

number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

ARG 6/4/2008

/Adam R. Giesy/
Examiner, Art Unit 2627

/Wayne Young/
Supervisory Patent Examiner, Art Unit 2627